the rim hole punch supported by a matrix (8), and breaking out, when the rim hole punch is driven through the stack (1, 2), a piece of material (10) of the rear plate-shaped work piece (2), the outer contours of which piece of material correspond to the outer contours of the rim hole.

Please amend claim 2 to read:

2 (Twice Amended). Method for producing a rim hole according to Claim 1, wherein at the end of the feed movement of the rim hole punch (7), the rim hole (9) protrudes over a surface facing matrix (8) of the rear plate-shaped workpiece (2).

REMARKS

This Amendment is in response to the Office Action mailed on August 5, 2002. A Petition for One-Month Extension of Time, and a check in the amount of $110.00, are submitted herewith. In the event any additional fees are necessary, kindly charge the cost thereof to our Deposit Account No. 13-2855.

Response to Claim Objections

Claims 1-3, 5, and 6 were objected to. In response, the Applicant amended claim 1 by deleting "other" before "rear", as suggested. The Applicant also inserted a comma after "(2)" in line 15 of claim 1, as suggested. Furthermore, the Applicant amended claim 2, line 5, by deleting "work[]piece" and substituting --workpiece--, as suggested. It is believed these amendments overcome the objections set forth in the Office Action.

Response to Claim Rejections Under 35 U.S.C. § 112

Claims 1-3, 5, and 6 were rejected under 35 U.S.C. § 112, second paragraph. In claim 1, the language "the cross-sectional surface of the opening of the rim hole" lacked antecedent basis. In response, the Applicant deleted "the" before "cross-sectional" and substituted -- a --.

Also in claim 1, the language "the direction feed" lacked antecedent basis. In response, the Applicant amended claim 1 by changing "in a single feed movement of the rim hole punch (7)" to -- by movement of the rim hole punch (7) in a single feed direction --, and by changing "the direction of feed" to -- the single feed direction --. It is respectfully submitted that these amendments to claim 1 make the claim read better and overcome the rejections under 35 U.S.C. § 112, second paragraph.

In claim 2, the language "the surface facing matrix (8)" lacked antecedent basis. In response, the Applicant amended claim 2 by changing "the" to -- a -- before "surface facing matrix". It is believed this amendment overcomes the antecedent basis rejection.

Response to Claim Rejections Under 35 U.S.C. § 102

Claims 1, 5, and 6 are rejected under 35 U.S.C. § 102 as being anticipated by Bartelheim, U.S. Patent No. 2,441,181 ("Bartelheim"). Bartelheim discloses a method of attaching electrical terminals to insulator cards using a rim hole punch driven vertically through the stack, comprising the steps of creating a penetration opening through the stack and forming, by movement of the rim hole punch in a single feed direction, both the rim hole and the opening in the other rear plate-shaped work piece. However, Bartelheim does not disclose that the two plate-shaped work pieces are made of metal, as recited by Claim 1 as now amended. The amendment to claim 1 is supported by the specification as originally filed, for example on page 6, first (carry-over) paragraph, and does not add any new matter.

Furthermore, in Bartelheim, after completion of the perforating operation, the punch descends further, causing the tapered shoulder (16) thereof to press the metal surrounding the hole in the terminal into a tubular eyelet (26). As the metal is being pressed, the eyelet is pressed into the insulator card. However, the metal is not drawn through the eyelet completely, nor is the metal flanged.

This is contrary to claim 1, as amended, which not only recites that the two plate-shaped work pieces are made of metal, but also recites that the penetration opening created by the rim hole punch has a cross-sectional surface corresponding at most to a cross-sectional surface of the opening of the rim hole, and that when the rim hole punch is driven through the stack, a piece of material of the rear plate-shaped work piece is broken out, the outer contours of which piece of material correspond to the outer contours of the rim hole.

Bartelheim discloses that a card (20) of insulating material is placed on the die plate (11) and that a metal terminal member (21) is superposed on the insulator card. The tapered shoulder (16) of Bartelheim is above the tip of the rim hole punch, so the hole is formed in two separate steps. First, a circular slug is removed by the rim hole punch, then an annular slug is ejected through a die aperture when the tapered shoulder presses or draws the metal surrounding the hole in the terminal into the tubular eyelet (26).

The resulting hole in the card of insulating material of Bartelheim is enlarged after the removal of the circular slug, i.e. by the further pressing out of the annular slug. Thus, Bartelheim does not disclose or suggest, as recited in claim 1, that the outer contours of the piece of material removed from the rear plate-shaped work piece by the rim hole punch *correspond to the outer contours of the rim hole.* It is therefore respectfully submitted that Bartelheim fails to anticipate, or render obvious, the Applicant's claim 1, as amended.

Claims 4 and 6 were also rejected as being anticipated by Bartelheim. Inasmuch as claims 4 and 6 both depend from claim 1, it is respectfully submitted that claims 4 and 6 are also neither anticipated nor rendered obvious by Bartelheim.

Response to Claim Rejections Under 35 U.S.C. § 103

Claims 1-3, 5, and 6 were rejected under 35 U.S.C. § 103 as being unpatentable over Ashby et al. in view of Bartelheim.

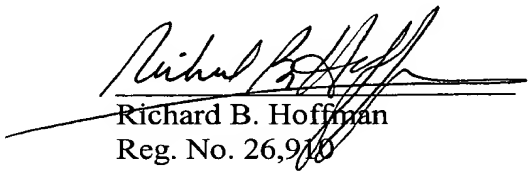
Bartelheim is directed to a method of attaching electrical terminals to isolator cards, such as phenol fiber or the like. The properties of phenol fiber are markedly different from the properties of metal. The Applicant's invention is concerned with simplifying the various steps involved in forming rim holes in stacks of at least two plate-shaped work pieces made of metal using a vertically-driven rim hole punch. It is respectfully submitted that Bartelheim relates to a non-analogous art to the present invention, and that a person of ordinary skill in the art to which the Applicant's invention is directed would not look to Bartelheim, either alone or as a modification of Ashby, to render obvious the Applicant's claim 1, as amended, or the claims depending therefrom.

Further, Ashby discloses producing a rim hole whose transverse section is formed by material of the upper and of the rear work piece. However, as conceded in the Office Action, Ashby fails to disclose the use of a rim hole punch which breaks out a piece of material of the rear plate-shaped work piece, the outer contours of which correspond to the outer contours of the rim hole, as the rim hole punch moves in the single feed direction. Thus, neither Ashby nor Bartelheim, alone or combined in the proposed manner, disclose or suggest every limitation of Applicant's claim 1. Thus, the proposed modification of Ashby according to the teachings of Bartelheim would not result in the Applicant's claim 1, and neither claim 1 nor the claims depending therefrom are rendered obvious by these cited references.

Additionally, inasmuch as the properties of isolating material such as phenol fiber, to which Bartelheim is directed, are different from metal materials, and Ashby does not even disclose the step of breaking out an additional piece of material to create a penetrating opening through the stack, it is respectfully submitted that a person of ordinary skill in the art would not even be led to the proposed combination of Ashby as modified by the teachings of Bartelheim, nor would such a proposed combination render obvious the Applicant's invention as set forth in claim 1, as amended, or any claims depending therefrom.

For the foregoing reasons, it is respectfully submitted that the claims, as amended, still pending in the application are now in condition for allowance. The Examiner's reconsideration and favorable action are respectfully requested. A copy of the claims showing changes made thereto by the present Amendment is attached, captioned VERSION WITH MARKINGS TO SHOW CHANGES MADE.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Please amend claim 1 as follows:

1 (Four Times Amended). Method for producing a rim hole through a stack of at least two plate-shaped work pieces made of metal using a rim hole punch, driven vertically through the stack, wherein material of one of the plate-shaped work pieces, which faces the rim hole punch, is pushed through an opening of another rear plate-shaped work piece, wherein inside contours of the opening correspond to outer contours of the rim hole, comprising the steps of:

creating a penetration opening (3, 3') through the stack (1, 2), said penetration opening having a cross-section surface corresponding at most to [~~the~~] a cross-sectional surface of the opening of the rim hole; and

forming, by [~~in a single feed~~] movement of the rim hole punch (7) in a single feed direction, both the rim hole (9) and the opening (21) in the [~~other,~~] rear plate-shaped work piece (2) seen from the single feed direction [of feed], by having the rear plate-shaped work piece (2) pointing away from the rim hole punch supported by a matrix (8), and breaking out, when the rim hole punch is driven through the stack (1, 2), a piece of material (10) of the rear plate-shaped work piece (2), the outer contours of which piece of material correspond to the outer contours of the rim hole.

Please amend claim 2 as follows:

2 (Twice Amended). Method for producing a rim hole according to Claim 1, wherein at the end of the feed movement of the rim hole punch (7), the rim hole (9) protrudes over [the] a surface facing matrix (8) of the rear plate-shaped [~~work[ ]piece~~] workpiece (2).

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